

# Notice of Allowability

Application No.

10/722,548

Examiner

(Nancy) Thanh-Nhan P Nguyen

Applicant(s)

KWOK ET AL.

Art Unit

2871

## -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/28/2003.
2. ☒ The allowed claim(s) is/are 1-9.
3. ☒ The drawings filed on 28 November 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

### Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date \_\_\_\_\_
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

### DETAILED ACTION

1. Claims 1-9 are presented for examination.
2. Claims 1-9 are allowed.
3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Katsuya et al U.S. Patent No. 6,507,381 discloses a liquid crystal display device comprising liquid crystal cell having negative dielectric anisotropy, vertical aligned with pretilt angle of  $3^{\circ}$  -  $10^{\circ}$ , and twist angle of  $0^{\circ}$ .

- b. Minoura et al U.S. Patent No. 6,108,064 discloses a reflective liquid crystal display device comprising liquid crystal cell having negative dielectric anisotropy, vertical aligned with pretilt angle of  $3^{\circ}$  -  $30^{\circ}$ , twist angle of  $120^{\circ}$  -  $170^{\circ}$ , and the product of the cell gap  $d$  and birefringence  $\Delta n$  of  $0.5 - 1.2 \mu m$ .

- c. Yamada et al U.S. Patent Application Publication 2002/0097362 discloses a liquid crystal display device comprising liquid crystal cell having negative dielectric anisotropy, vertical aligned, and twist angle of  $90^{\circ}$ .

4. The following is an examiner's statement of reasons for allowance:

Applicant's claimed invention distinguishes over the prior art for the following reasons. The claims are allowable over the prior art of record because none of the references, either alone or in combination, discloses or renders obvious a liquid crystal display device comprising liquid crystal cell having negative dielectric anisotropy,

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vertical aligned, the pretilt angle gives rise to a preferred twist angle of less than 45° or larger than 45°, and the product of the cell gap d and birefringence  $\Delta n$  has a high value of between 0.5 and 1.1  $\mu\text{m}$ , or 1.0 and 2.2  $\mu\text{m}$ .

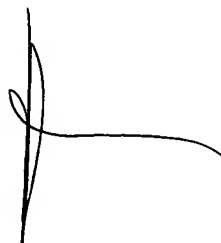
Any inquiry concerning this communication or earlier communications from the examiner should be directed to (Nancy) Thanh-Nhan P Nguyen whose telephone number is 571-272-1673. The examiner can normally be reached on M-F/9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

February 16, 2005

TN



KENNE  
PRIMARY EXAMINER

KENNETH PARKER  
PRIMARY EXAMINER